OK TO ENTER AGS 5/2/2006

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1.   (Previously Presented) A method of programming a semiconductor memory device, comprising:

applying a set pulse continuously to the memory device, applying the set pulse to the memory device comprises applying a current to a bit line of the memory device;

while the set pulse is applied, detecting a state of the memory device; and

when the memory device is determined to be in a desired set state, removing the set pulse by removing the current applied to the bit line of the memory device, such that duration of the set pulse is controlled based on the state of the memory device.

2.   (Original) The method of claim 1, wherein, when the memory device is in a reset state, a programmable material of the memory device is in an amorphous state.

3.   (Original) The method of claim 1, wherein, when the memory device is in the set state, a programmable material of the memory device is in a crystalline state.

4.   (Original) The method of claim 3, wherein, when the memory device is in a reset state, a programmable material of the memory device is in an amorphous state.

5.   (Original) The method of claim 1, wherein detecting a state of the memory device comprises detecting a resistance in the device.

6.   (Original) The method of claim 5, wherein the detected resistance comprises resistance in a programmable material of the memory device.